

Translation

PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference BR 3572DF/PJ | FOR FURTHER ACTION | See Form PCT/IPEA/416 |
| International application No. PCT/FR2004/001987 | International filing date (day/month/year) 26.07.2004 | Priority date (day/month/year) 01.08.2003 |
| International Patent Classification (IPC) or national classification and IPC H01R39/20 | | |
| <p>Applicant CARBONE LORRAINE APPLICATIONS ELECTRIQUES</p> | | |

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| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 2 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p> |
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| Date of submission of the demand | Date of completion of this report |
| Name and mailing address of the IPEA/EP | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FR2004/001987

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:

international search (Rule 12.3 and 23.1(b))
 publication of the international application (Rule 12.4)
 international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished
 the description:
 pages 1-7 as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

the claims:
 nos. 17, 18 as originally filed/furnished
 nos.* _____ as amended (together with any statement) under Article 19
14.05.2005 with letter
 nos.* 1-16 received by this Authority on of 12.05.2005
 nos.* _____ received by this Authority on _____

the drawings:
 sheets 1/3-3/3 as originally filed/furnished
 sheets* _____ received by this Authority on _____
 sheets* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/FR2004/001987

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|--------------------|-----|
| Novelty (N) | Claims <u>1-16</u> | YES |
| | Claims _____ | NO |
| Inventive step (IS) | Claims <u>1-16</u> | YES |
| | Claims _____ | NO |
| Industrial applicability (IA) | Claims <u>1-16</u> | YES |
| | Claims _____ | NO |

2. Citations and explanations (Rule 70.7)

1. Reference is made to the following documents:

D1: DE 478 021 C (HARTSTOFF METALL A G HAMETAG)

25 June 1929;

D2: FR-A-1 392 967 (MORGANITE CARBON LTD)

19 March 1965;

D3: FR-A-2 232 847 (RINGSBORFF WERKE GMBH)

3 January 1975;

D4: EP-A-0 525 222 (CARBONE AG) 3 February 1993

(1993-02-03).

2. Document D1, which is considered to be the **prior art closest** to the subject matter of claim 1, describes (the references between parentheses apply to said document) a sliding electrical contact element (Gleitkörper für Dynamobürsten) that contains a carbon base (Graphit) and copper, zinc and iron particles (see page 1, lines 14-20) and is lead-free.

The subject matter of claim 1 differs from this prior art in that said contact element is a **multilayer** element that has a layer consisting of

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Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

a material with low electrical resistivity and a layer consisting of a material with higher electrical resistivity, wherein the material forming the layer with low electrical resistivity contains zinc and iron-based particles of less than 500 μm .

3. **The objective technical problem** that the present invention is intended to solve can be considered to be that of reducing the friction between the collector and the sliding electrical contact elements.
4. The **solution** is proposed in the characterising portion of claim 1.
5. Said solution is not obvious from the prior art known from the international search report (documents D1-D4) and, as a result, the subject matter of the invention as per claim 1 is **novel and involves an inventive step** (PCT Article 33(2) and 33(3)).
6. Claims 2-16 are dependent on claim 1 and therefore also fulfil the requirements PCT Article 33(2) and 33(3).
7. Since the invention as per claims 1-16 is industrially applicable, it fulfils the requirement of PCT Article 33(4).